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Title:
[VCM] Poznań University of Technology comments on CfP on VCM

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Abstract

The document comprises comments on Draft 3 of CfP [1] on VCM.

1. Introductory remarks

Poznań University of Technology expresses sincere thanks to VCM group for the efforts made towards VCM standardization.

1.1. We believe that the goal of the Call for Proposal is to choose the most promising technology that will be the starting point in the development of the future standard.

1.2. The participants will donate substantial effort to standardization community. Therefore, the goals and selection criteria should be defined as clearly as possible in the Call for Proposals.

1.3. For the benefit of the standardization process, it is important that all parties will know well in advance all the conditions of goals, conditions and selection criteria.

1.4. It will be very painful for future collaboration, if unclear selection criteria will lead to misunderstandings or even conflicts between the participants and possibly the chairs.

2. Timeline

2.1. Assuming that June 27th is the deadline for the proponents to upload their results, the Draft CfP should be issued in January. In such a case, the Draft CfP should be very similar to the Final CfP, allowing negligible corrections in April at most. The goals and the selection criteria should be carefully formulated already in January. The current status of CfP is quite fuzzy for selection criteria, and it is a good question if the Draft CfP can reach such a status during the January meeting.

2.1 In particular, the data sets should be clearly defined in the 2-meeting cycle before the deadline for CfP. The changes due to MPEG-independent factors could be allowed.

2.2 The deadlines should be reasonable in order to give chance to possibly many companies to participate.

2.3 The 10-day cross-check may be too optimistic if the number of proponents is higher.

3. Testing procedure

3.1. The MPEG practice for proposal evaluation is to have proponent-independent testing environment. In the case of CfP VCM, the evaluation is simpler because of the lack of subjective evaluation. Nevertheless, some transparency measures are needed. Unfortunately, in past, several cases of dishonesty were found when the participants cross-check them mutually.

4. Goals and testing criteria

4.1. First of all, it is unclear how the quality for humans and the performance of the individual computer vision tasks will be balanced (if the quality for humans is a real evaluation criterion). We appreciate the modification in Version 3 vs. Version 2 that stresses the machine vision task performance.

4.2. Will be the ranking done individually for each computer vision task? If not, how the result for individual categories will be aggregated?

4.3. In the Section 8.6 of [1], seven criteria are listed. How the propositions will be selected? Which individual criteria are more important? If the criteria are not equally important, how they are weighted? The exact answer may be difficult, or even undesirable. Nevertheless, the current formulation seems to be extremely fuzzy and not fully consistent with “Common Test Conditions and Evaluation Methodology for Video Coding for Machines” [2].

4.4. Probably, it should be very clearly stated that the output of the decoder must be an image / video then processed by computer vision software for segmentation/selection and tracking.

4.5. Very fuzzy evaluation criteria may lead to unpleasant disputes related to the proposal ranking.

5. Testing fee

5.1. The testing fee is a sensitive issue. Probably, it should be resolved in 2-meeting cycle before the submission deadline.

6. Terminology

6.1. The CfP uses the jargon term “YUV” to name the color components which is obviously imprecise as YUV denote analog luma and chroma components in European analog television. CfP should rather use YC_RC_B . This jargon is quite common in MPEG but should be possibly avoided in public documents. For conversions between RGB and YC_RC_B , the proper transformation should be clearly defined.

7. References

[1] ISO/IEC JTC 1/SC 29/WG 2, “DRAFT Call for Proposals on Video Coding for Machines”, doc. M58471, 21.12.2021

[2] ISO/IEC JTC 1/SC 29/WG 2, “Common Test Conditions and Evaluation Methodology for Video Coding for Machines”, doc. M58357, October 2021

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